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EXAMINER
NGUYEN, THUONG

ART UNIT	PAPER NUMBER
2155	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/058,722	LU ET AL.
	Examiner	Art Unit	
	Thuong (Tina) T. Nguyen	2155	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>08 March 2007</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-35</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is responsive to application 10/058,722 the amendment filed

on 3/8/07. Claims 1-35 represent method, computer readable medium, and system for

apparatus and methods for restoring traffic during failover in a cable head end

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-6, 22-24, 26-27, 32-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over by Cloonan Patent No. 2002/0066110 A1 in view of Heiken JR.,

Patent No. 2003/0141971 A1.

Cloonan teaches the invention as claimed including method and apparatus for

preventing re-ranging and re-registration of cable modems during protection switching

between active and spare cable interface cards in a cable modem termination system

(see abstract).

4.   As to claim 1, Cloonan teaches a method comprising:

receiving <u>by the backup cable modem termination system</u> subscriber information

associated with <u>the</u> one or more cable modems from <u>the</u> active cable modem

termination system, the subscriber information including one or more subscriber

identifiers (page 1; paragraph 8-11; Cloonan discloses that the method of associating

subscribers information such as QoS or SLAs with the priority for the traffic flows and

cable modems);

prioritizing the cable modems <u>by the backup cable modem termination system</u>

using at least one of the subscriber information or a time of receipt of the subscriber

information, the prioritized cable modems indicating an order in which the transmission

of messages between the one or more cable modems and the backup cable modem

termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32;

Cloonan discloses that the method of setting the priority level of the CMTS which

appropriate with the classifying, prioritizing, flow control and scheduling between cable

data subscribers and the Internet); and

polling the cable modems <u>by the backup cable modem termination system</u> in the

order indicated by the prioritized cable modems, thereby enabling the transmission of

messages between the one or more cable modems and the backup cable modem

termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the

method of re-route the traffic between the switching fabric interface card for the active

and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and

polling by the backup cable modem termination system.

However, Heiken JR. teaches electronic emergency incident notification system (see abstract). Heiken JR. teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Heiken JR. so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

5.   As to claim 2, Cloonan and Heiken JR. teach the method as recited in claim 34, wherein at least one of the processor or the memory being further adapted for performing prioritizing and polling in response to a failover trigger from the active cable modem termination system (figure 4 & 7).

6.   As to claim 3, Cloonan and Heiken JR. teach the method as recited in claim 34, further comprising:

determining that the active cable modem termination system has (page 4; paragraph 32; Cloonan discloses that the method of determined the active cable modem interface card);

wherein prioritizing and polling are performed after determining that the active cable modem termination system has failed (page 4; paragraph 32 & 33; Cloonan discloses that the method of switch on the spare cable once detected a failure of the primary cable modem interface).

7.   As to claim 4, Cloonan and Heiken JR. teach the method as recited in claim 1,

wherein the subscriber information identifies those modems that have ranged

successfully (page 3; paragraph 31; Cloonan discloses that the method of ranging

information).

8.   As to claim 5, Cloonan and Heiken JR. teach the method as recited in claim 1,

wherein receiving the subscriber information occurs after a specified period of time or

after a call is received by the active cable modem termination system from one or more

of the cable modems (page 4; paragraph 34; Cloonan discloses that the method of

updating the subscriber information after period of time).

9.   As to claim 6, Cloonan and Heiken JR. teach the method as recited in claim 34,

further comprising:

        storing the subscriber information after receiving the subscriber information (page

1; paragraph 8-11; Cloonan discloses that the method of storing subscriber information

which related to the network traffic and priority such as QoS and SLAs);

        wherein prioritizing the cable modems comprises prioritizing subscribers

associated with the cable modems using the stored subscriber information (page 1;

paragraph 8-11; Cloonan discloses that the method of prioritize the network traffic for

the subscribers based on QoS or SLAs).

10.   As to claim 22, Cloonan and Heiken JR. teach the method as recited in claim 1,

wherein storing the subscriber information and a time of receipt of the subscriber

information by the backup cable modem termination system such that the subscriber

information is associated with the time of receipt (page 4; paragraph 36; Cloonan

discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

11.   As to claim 23, Cloonan and Heiken JR. teach the method as recited in claim 22, wherein the subscriber information is stored in order of the time of receipt (page 5; paragraph 41; Cloonan discloses that the method of storing the time stamp within the CMTS).

12.   As to claim 24, Cloonan and Heiken JR. teach the method as recited in claim 34, further comprising: storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt (page 4; paragraph 36; Cloonan discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

13.   As to claim 26, Cloonan and Heiken JR. teach the method as recited in claim 1, further comprising: after receiving the subscriber information, sending an acknowledgement of the subscriber information to the active cable modem termination system (page 2; paragraph 25; page 3, paragraph 30; Cloonan discloses that the method of synchronizing MAC management messages with timing headers).

14.   As to claim 27, Cloonan and Heiken JR. teach the method as recited in claim 34, wherein repeatedly receiving subscriber information associated with one or more cable modems from an active cable modem termination system prior to prioritizing the cable modems (page 2; paragraph 15 & 25; Cloonan discloses that the method of setting the prioritize for the CMTS when a protection switch occurs between the two cables).

15.   As to claim 32, Cloonan teaches a computer-readable medium comprising:

        instructions for receiving by the backup cable modem termination system

subscriber information associated with the one or more cable modems from the active

cable modem termination system, the subscriber information including one or more

subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the computer-

readable medium of associating subscribers information such as QoS or SLAs with the

priority for the traffic flows and cable modems);

        instructions for prioritizing the cable modems by the backup cable modem

termination system using at least one of the subscriber information or a time of receipt

of the subscriber information, the prioritized cable modems indicating an order in which

the transmission of messages between the one or more cable modems and the backup

cable modem termination system is to be restored (page 2; paragraph 14; page 4,

paragraph 32; Cloonan discloses that the computer-readable medium of setting the

priority level of the CMTS which appropriate with the classifying, prioritizing, flow control

and scheduling between cable data subscribers and the Internet); and

        instructions for polling the cable modems by the backup cable modem

termination system in the order indicated by the prioritized cable modems, thereby

enabling the transmission of messages between the one or more cable modems and

the backup cable modem termination system to be restored (page 3; paragraph 28-29;

Cloonan discloses that the computer-readable medium of re-route the traffic between

the switching fabric interface card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Heiken JR. teaches electronic emergency incident notification system (see abstract). Heiken JR. teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Heiken JR. so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

16.   As to claim 33, Cloonan teaches a system comprising:

means for receiving by the backup cable modem termination system subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the system of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

means for prioritizing the cable modems by the backup cable modem termination system using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem terminal system is to be restored (page 2; paragraph 14; page 4,

paragraph 32; Cloonan discloses that the system of setting the priority level of the

CMTS which appropriate with the classifying, prioritizing, flow control and scheduling

between cable data subscribers and the Internet); and

means for polling the cable modems <u>by the backup cable modem termination</u>

<u>system</u> in the order indicated by the prioritized cable modems, thereby enabling the

transmission of messages between the one or more cable modems and the backup

cable modem termination system to be restored (page 3; paragraph 28-29; Cloonan

discloses that the system of re-route the traffic between the switching fabric interface

card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and

polling by the backup cable modem termination system.

However, Heiken JR. teaches electronic emergency incident notification system

(see abstract). Heiken JR. teaches the limitation wherein receiving, prioritizing and

polling by the backup cable modem termination system (page 3, paragraph 24; page 5,

paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Cloonan in view of Heiken JR. so that the system would be able to

operate smoothly by using the backup system. One would be motivated to do so to

ensure smooth operation.

17.   As to claim 34, Cloonan teaches a system comprising:

a processor (figure 4); and

a memory (figure 4),

receiving <u>by the backup cable modem termination system</u> subscriber information

associated with <u>the</u> one or more cable modems from <u>the</u> active cable modem

termination system, the subscriber information including one or more subscriber

identifiers (page 1; paragraph 8-11; Cloonan discloses that the system of associating

subscribers information such as QoS or SLAs with the priority for the traffic flows and

cable modems);

prioritizing the cable modems <u>by the backup cable modem termination system</u>

using at least one of the subscriber information or a time of receipt of the subscriber

information, the prioritized cable modems indicating an order in which the transmission

of messages between the one or more cable modems and the backup cable modem

termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32;

Cloonan discloses that the system of setting the priority level of the CMTS which

appropriate with the classifying, prioritizing, flow control and scheduling between cable

data subscribers and the Internet); and

polling the cable modems <u>by the backup cable modem termination system</u> in the

order indicated by the prioritized cable modems, thereby enabling the transmission of

messages between the one or more cable modems and the backup cable modem

termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the

system of re-route the traffic between the switching fabric interface card for the active

and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and

polling by the backup cable modem termination system.

However, Heiken JR. teaches electronic emergency incident notification system (see abstract). Heiken JR. teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Heiken JR. so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

18.   As to claim 35, Cloonan and Heiken JR. teach the system as recited in claim 34, wherein prioritizing the cable modems according to at least one of scheduling type identified in the subscriber information, presence of secondary subscriber identifier in the subscriber information, or time of receipt of the subscriber information by the backup cable modem termination system from the active cable modem termination system (page 4; paragraph 34; Cloonan discloses that the system of priority the cable for the subscriber based on the time stamp).

19.   Claims 7-21, 25, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Hieken JR., Patent No. 2003/0141971 A1 and further in view of Gummalla, Patent No. 6,999,414 B2.

Cloonan teaches the invention substantially as claimed including reliability enhancement for cable modem service (see abstract).

20.   As to claim 7, Cloonan and Heiken JR. teach the method as recited in claim 1.

But Cloonan and Heiken JR. failed to teach the claim limitation wherein the subscriber

information associated with each of the cable modems comprises a primary subscriber

identifier that identifies the associated cable modem.

However, Gummalla teaches system and method for combining requests for data

bandwidth by a data provider for transmission of data over an asynchronous

communication medium (see abstract).

Gummalla teaches the limitation wherein the subscriber information associated

with each of the cable modems comprises a primary subscriber identifier that identifies

the associated cable modem (col 4, lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so

that the cable modem receives data from a user to be transferred via a cable network.

One would be motivated to do so to ensure the importance of different priority identifiers

to different types of data.

21.   As to claim 8, Cloonan, Heiken JR. and Gummalla teach the method as recited in

claim 7, wherein the subscriber information further comprises a MAC address

associated with the cable modem (figure 4).

22.   As to claim 9, Cloonan, Heiken JR. and Gummalla teach the method as recited in

claim 7. But Cloonan and Heiken JR. failed to teach the claim limitation wherein at least

a portion of the subscriber information further comprises a secondary subscriber

identifier.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier (figure 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that the system would be able to separate the subscribers. One would be motivated to do so to ensure the flexibility of the system.

23.   As to claim 10, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 9. But Cloonan and Heiken JR. failed to teach the claim limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (col 6, lines 33-43).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that sending different bandwidth requests to CMTS. One would be motivated to do so to differentiate different priority identifiers values for data that has arrived at CMTS at different times.

24.   As to claim 11, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 9. But Cloonan and Heiken JR. failed to teach the claim limitation wherein the

secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data (col 5, lines 6-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that grant the requested bandwidth to cable modem accordingly for the voice data and video data. One would be motivated to do so to ensure the bandwidth of the requested data.

25.   As to claim 12, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 9, wherein the subscriber information further comprises quality of service requirements (page 1; paragraph 8-11; Cloonan discloses that the method of associating the SLAs with the priority for the subscribers).

26.   As to claim 13, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 9. But Cloonan and Heiken JR. failed to teach the claim limitation wherein at least a portion of the subscriber information further comprises a scheduling type.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a scheduling type (col 8, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that the system schedule the bandwidth transmit based on the quality of service parameters. One would be motivated to do so to prioritize the requested accordingly.

27.   As to claim 14, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 13. But Cloonan and Heiken JR. failed to teach the claim limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted.

However, Gummalla teaches the limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted (col. 7, lines 58-68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that the traffic could be faster and more accurate. One would be motivated to do so to reduce the overhead of bandwidth grants via downstream communication.

28.   As to claim 15, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 13, wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (page 4; paragraph 33; Cloonan discloses that the method of loading the information into the spare cable interface once detect the failure in the system).

29.   As to claim 16, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 13. But Cloonan and Heiken JR. failed to teach the claim limitation wherein the scheduling type indicates whether the messages to be transmitted between the backup

cable modem termination system and the associated cable modem include voice data

or video data.

However, Gummalla teaches the limitation wherein the scheduling type indicates

whether the messages to be transmitted between the backup cable modem termination

system and the associated cable modem include voice data or video data (col 4, lines

51-64).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so

that the bandwidth prioritizes accordingly. One would be motivated to do so to ensures

there would be enough bandwidth for each type of data.

30.   As to claim 17, Cloonan, Heiken JR. and Gummalla teach the method as recited

in claim 13. But Cloonan and Heiken JR. failed to teach the claim limitation wherein the

scheduling type is Unsolicited Grant Service or Unsolicited Grant with Activity Detection.

However, Gummalla teaches the limitation wherein the scheduling type is

Unsolicited Grant Service or Unsolicited Grant with Activity Detection (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so

that system would provide more variety choices. One would be motivated to do so to

improve the performance of the system.

31.   As to claim 18, Cloonan, Heiken JR. and Gummalla teach the method as recited

in claim 13. But Cloonan and Heiken JR. failed to teach the claim limitation wherein

prioritizing the subscriber information comprises searching the subscriber information

associated with the cable modems for a secondary subscriber identifier; and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier.

However, Gummalla teaches the limitation wherein prioritizing the subscriber information comprises searching the subscriber information associated with the cable modems for a secondary subscriber identifier (col 5, lines 49-63); and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier (col 7, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that the bandwidth requested are schedule to be service based on priority identifier. One would be motivated to do so to schedule the service based on the various quality of service parameter.

32.   As to claim 19, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 18. But Cloonan and Heiken JR. failed to teach the claim limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type.

However, Gummalla teaches the limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type (col 8, lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so that separate the schedule of the bandwidth requested and data bust. One would be motivated to do so to utilize schedule to combine bandwidth requests from the same cable modem.

33.   As to claim 20, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 19, wherein prioritizing each of the cable modems with subscriber information having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 34; Cloonan discloses that the method of priority the cable for the subscriber based on the time stamp).

34.   As to claim 21, Cloonan, Heiken JR. and Gummalla teach the method as recited in claim 18, wherein prioritizing each of the cable modems with subscriber information not having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 35; Cloonan discloses that the method of prioritize the cable modems for the subscriber according to the time stamp).

35.   As to claim 25, Cloonan and Heiken JR. teach the method as recited in claim 24. But Cloonan and Heiken JR. failed to teach the claim limitation comprising prioritizing

cable modems according to the time of receipt of the corresponding subscriber

information.

However, Gummalla teaches the limitation wherein prioritizing cable modems

according to the time of receipt of the corresponding subscriber information (col 8, lines

49-58).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so

that CMTS schedule each data bandwidth accordingly. One would be motivated to do

so to differentiate the important of the timing and type of data.

36.   As to claim 28, Cloonan and Heiken JR. teach the method as recited in claim 27,

wherein receiving subscriber information associated with one or more cable modems

from a first active cable modem termination system and receiving subscriber information

associated with one or more cable modems from a second active cable modem

termination system (page 2; paragraph 12; Cloonan discloses that the method of

associating subscriber information and prioritize the cable modem once detected the

failure in the system).

But Cloonan and Heiken JR. failed to teach the claim limitation wherein

prioritizing the cable modems comprises prioritizing the cable modems associated with

the first active cable modem termination system is performed separately from prioritizing

the cable modems associated with the second active cable modem termination system.

However, Gummalla teaches the limitation wherein prioritizing the cable modems

comprises prioritizing the cable modems associated with the first active cable modem

termination system is performed separately from prioritizing the cable modems

associated with the second active cable modem termination system (col 2, lines 33-63).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the combination of Cloonan and Heiken JR. in view of Gummalla so

that providing the requested bandwidth and prioritize accordingly. One would be

motivated to do so to structure data in order in which the bandwidth request were

synchronize with the prioritize and scheduling system.

37.   As to claim 29, Cloonan, Heiken JR. and Gummalla teach the method as recited

in claim 28, further comprising: storing information corresponding the prioritized cable

modems associated with the first active cable modem termination system separately

from information corresponding to the prioritized cable modems associated with the

second active cable modem termination system (page 2; paragraph 12-14; Cloonan

discloses that the method of prioritize the cable modems based on the information of

the subscriber such as QoS or SLAs).

38.   Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cloonan, Patent No. 2002/0066110 A1 in view of Heiken JR., Patent No. 2003/0141971

A1 and further in view of Burroughs, Patent No. 2002/0144284 A1.

Cloonan teaches the invention substantially as claimed including method and

apparatus for preventing re-ranging and re-registration of cable modems during

protection switching between active and spare cable interface cards in a cable modem

termination system (see abstract).

39.   As to claim 30, Cloonan and Heiken JR. teach the method as recited in claim 34.

But Cloonan and Heiken JR. failed to teach the claim limitation wherein receiving an

indication that an active cable modem termination system has failed; determining an

identity of the failed active cable modem termination system; and wherein receiving

subscriber information associated with one or more cable modems from the active cable

modem termination system comprises obtaining the subscriber information associated

with the failed active cable modem termination.

However, Burroughs teaches reliability enhancement for cable modem service

(see abstract). Burroughs teaches the limitation wherein receiving an indication that an

active cable modem termination system has failed (page 3, paragraph 32; Burroughs

discloses that the method of determined if the primary downstream channel is invalid);

determining an identity of the failed active cable modem termination system (page 3,

paragraph 32; Burroughs discloses that the method of determined if the primary channel

if invalid by detecting the loss of sync message, within time-out period and after a

specific number of attempted); and wherein receiving subscriber information associated

with one or more cable modems from the active cable modem termination system

comprises obtaining the subscriber information associated with the failed active cable

modem termination system (page 3, paragraph 29 & 32; Burroughs discloses that the

method of transmit to the backup channel or modem once detecting the failure of the

primary channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Burroughs so that the backup cable would take over once detected the invalid state of the primary cable modem. One would be motivated to do so to preventing those cable modems that have their downstream service via that channel for the switching position of the active and the standby cable modem.

40.   As to claim 31, Cloonan and Heiken JR. teach the method as recited in claim 1. But Cloonan and Heiken JR. failed to teach the claim limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated; and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system.

However, Burroughs teaches the limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated (page 1, paragraph 4; Burroughs discloses that the method of detecting the failure of the CMTS); and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system (page 1, paragraph 7; Burroughs discloses that the method of initializing the parameter, configuration once detect the invalid of the primary CMTS).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Heiken JR. in view of Burroughs so that the system would detect when the primary cable becomes invalid. One would be motivated to do so to prevent the delay in transmitting the messages or packets.

Response to Arguments

Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments include the failure of previously applied art to expressly disclose receiving by the backup cable modem termination system subscriber information associated with the one or more cable modems from the active cable modem termination system (see Applicant's response, 3/8/07, page 15, paragraph 2). It is evident from the detailed mappings found in the above rejection(s) that Cloonan disclosed this functionality (see Cloonan, page 1; paragraph 8-11). Further, it is clear from the numerous teachings (previously and currently cited) that the provision for <u>receiving by the backup cable modem termination system</u> was widely implemented in the networking art. Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Cloonan discloses the system of re-ranging and re-registration of the cable modems once detects the

failure of the primary cable modem. Burroughs discloses that the system of establishing the cable modem service for the alternate downstream or upstream once detect the failure in the system. Gummalla discloses that the system of prioritize of the cable schedule modem. Therefore, it's obvious to combine the references to established the connection between the backup cable modem once detect the failure in the main system or the main cable modem.
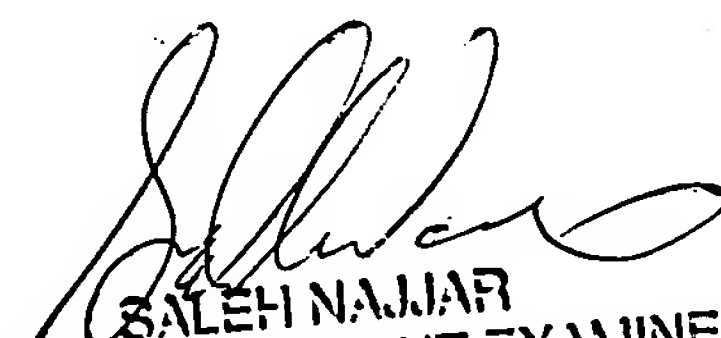
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuong (Tina) Nguyen whose telephone number is 571-272-3864, and the fax number is 571-273-3864. The examiner can normally be reached on 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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